

Sub Q' **Claims**

[c1] 1. A method for processing a compressed bitstream comprising video data, the method comprising:  
parsing a portion of the compressed bitstream before motion compensation on video data included in the portion;  
obtaining motion information related to the video data, the motion information comprising a set of motion vectors;  
storing a reference sub-region identified by the motion information in a first memory before performing motion compensation using the set of motion vectors; and  
performing motion compensation on the video data using the reference sub-region stored on the first memory.

[c2] 2. The method of claim 1 wherein the first memory source is an on-chip memory source.

[c3] 3. The method of claim 1 wherein storing the reference sub-region in the first memory comprises performing a direct memory access based on the motion vector.

[c4] 4. The method of claim 3 wherein the second memory source is an off-chip memory source and the direct memory access includes accessing the second memory source.

[c5] 5. The method of claim 1 further comprising storing the motion information in the first memory.

[c6] 6. The method of claim 1 wherein obtaining motion information comprises extracting and decoding the set of motion vectors from the compressed bitstream.

[c7] 7. The method of claim 1 wherein the time that the reference sub-region is stored in the first memory before performing motion compensation using the set of motion vectors comprises the time required for to complete a direct memory access to store the reference sub-region in the first memory.

[c8] 8.The method of claim 1 wherein the time that the reference sub-region is stored in the first memory before performing motion compensation using the set of motion vectors comprises an estimated time for a processor to reconstruct one macroblock.

[c9] 9.The method of claim 1 wherein storing the reference sub-region further comprises storing multiple reference sub-regions.

[c10] 10.The method of claim 9 wherein the multiple reference sub-regions are included in a reference window, the reference window comprising a set of reference window sub-regions.

[c11] 11.The method of claim 10 further comprising:  
creating the reference window comprising the set of reference window sub-regions, the set of reference window sub-regions including the reference sub-region identified by the set of motion vectors; and  
storing the set of reference window sub-regions in the first memory source.

[c12] 12.The method of claim 11 wherein the reference window has a trapezoidal array of reference window portions.

[c13] 13.The method of claim 12 the reference sub-region identified by the motion information is the upper left reference window sub-region in the trapezoidal array.

[c14] 14.The method of claim 1 wherein the video data comprises a macroblock.

[c15] 15.The method of claim 1 further comprising converting the motion information to an DMA instruction..

[c16] 16.The method of claim 1 further comprising obtaining motion information from a second compressed bitstream and performing motion compensation on video data included in the second compressed bitstream.

[c17] 17.A method for processing a compressed bitstream comprising video data, the method comprising:  
parsing a portion of the compressed bitstream before motion compensation on

video data included in the portion;  
obtaining motion information related to the video data, the motion information comprising a set of motion vectors;  
storing a set of reference window sub-regions included in a reference window in a first memory before motion compensation using the motion information, wherein the set of motion vectors references a reference window sub-region in the set of reference window sub-regions; and  
performing motion compensation on the video data using the reference sub-region stored on the first memory.

[c18] 18. The method of claim 17 further comprising:  
creating the reference window comprising the set of reference window sub-regions, the set of reference window sub-regions including the reference sub-regions identified by the motion information; and  
storing the set of reference window sub-regions in the first memory source.

[c19] 19. The method of claim 17 wherein the reference window has a trapezoidal array of reference window sub-regions.

[c20] 20. The method of claim 17 the reference sub-region identified by the motion information is the upper left reference window sub-region in the reference window.

[c21] 21. A system for processing a compressed bitstream comprising video data, the system comprising:  
means for parsing a portion of the compressed bitstream before motion compensation on video data included in the portion;  
means for obtaining motion information related to the video data, the motion information comprising a set of motion vectors;  
means for storing a reference sub-region identified by the motion information in a first memory before performing motion compensation using the set of motion vectors; and  
means for performing motion compensation on the video data using the reference sub-region stored on the first memory.

- [c22] 22.The method of claim 21 further comprising means for extracting and decoding the motion information from the compressed bitstream.
- [c23] 23.The method of claim 21 further comprising means for creating a reference window comprising the set of reference window sub-regions, the set of reference window sub-regions including the reference sub-region identified by the motion information.
- [c24] 24.A computer readable medium including instructions for processing a compressed bitstream comprising video data, the instructions comprising: instructions for parsing a portion of the compressed bitstream before motion compensation on video data included in the portion; instructions for obtaining motion information related to the video data, the motion information comprising a set of motion vectors; instructions for storing a reference sub-region identified by the motion information in a first memory before performing motion compensation using the set of motion vectors; and instructions for performing motion compensation on the video data using the reference sub-region stored on the first memory.